

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN	Inventor(s): Mary E. Brunkow et al.	

Title: COMPOSITIONS AND METHODS FOR INCREASING BONE MINERALIZATION

Express Mail No. EL897871282US

Serial No. 09/668,021

Docket No. 240083.508D2

Common Cysteine Backbone

1		50
human-gremlin.pro	-----	-----
human-cerberus.pro	MHLLLFQLLV LLPLGKTTRH QDGRQNQSSL SPVLLPRNQR ELPTGNHEEA	
human-dan.pro	-----	-----
human-beer.pro	-----	-----
	51	100
human-gremlin.pro	-----M SRTAYTVGAL LLLLGTLTPA AEGKKKGSQG	
human-cerberus.pro	EEKPDFVAV PHLVAT.SPA GEGQRQREKM LSRFGRFWKK PEREMHPSRD	
human-dan.pro	-----	-----
human-beer.pro	-----MQLPLA LCLVCLLVHT	
	101	150
human-gremlin.pro	AI.PPPDKAQ HNDSEQTQSP QQPGSRNRGR GQGRGTAMPG EEVLESSQEA	
human-cerberus.pro	SDSEPFPPGT QSLIQPID.G MKMEKSPLRE EAKKFVHHFM FRKTPASQGV	
human-dan.pro	-----MLRVLVGAVL PAMLLAAPP	
human-beer.pro	AFRVVEGQGW QAFKNDATET IPGLGEYPEP PPELENNKTM NRAENGGRPP	
	151	200
human-gremlin.pro	LHVTERKYLK RDWCKTQPLK QTIHEEGCNS RTIINRF.CY GQCNSFYIPR	
human-cerberus.pro	ILPIKSHEVH WETCRTVPFS QTITHEGCEK VVQNNL.CF GKCGSVHFP.	
human-dan.pro	INKLALFPDK SAWCEAKNIT QIVGHSGCEA KSIQNR.A.CL GQCFSYSVFN	
human-beer.pro	HHPFETKQVS EYSCRELHFT RYVTDGPCRS AKPVTCLVCS GQCGPARLLP	
	201	250
human-gremlin.pro	HIRKEEGSFQ SCSF...CKP KKFTTMMVTL NCPQLQPTK K.KRVTRVKQ	
human-cerberus.pro	..GAAQHSHT SCSH...CLP AKFTTMHLPL NCTELSSVIK V...VMLVEE	
human-dan.pro	TFPQSTESLV HCDS...CMP AQSMWEIVTL ECPGHEEVPR VDKLVEKILH	
human-beer.pro	NAIGRGKWWR PSGPDFRCIP DRYRAQRVQL LCPGGEAPRA RKVRLVAS..	
	251	300
human-gremlin.pro	CRC.ISIDLD -----	
human-cerberus.pro	COCKVKTEHE DGHILHAGSQ DSFIPGVSA-----	
human-dan.pro	CSCQACGKEP SHEGLSVYVQ GEDGPGSQPG THPHPHPHPH PGGQTPPEPD	
human-beer.pro	CKCKRLTRFH NQSELKDFGT EAARPKGRK PRPRARSAKA NQAELENAY~	
	301	314
human-gremlin.pro	-----	-----
human-cerberus.pro	-----	-----
human-dan.pro	PPGAPHTEEE GAED	
human-beer.pro	-----	-----

Fig. 1

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Human Beer Gene Expression by RT-PCR

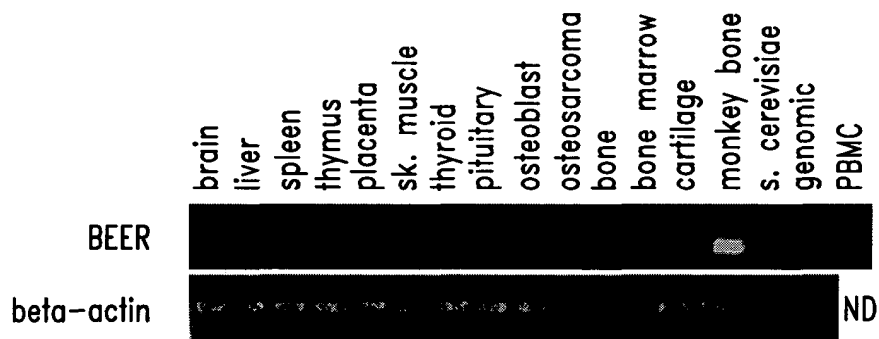


Fig. 2

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RNA In Situ Hybridization of Mouse Embryo Sections

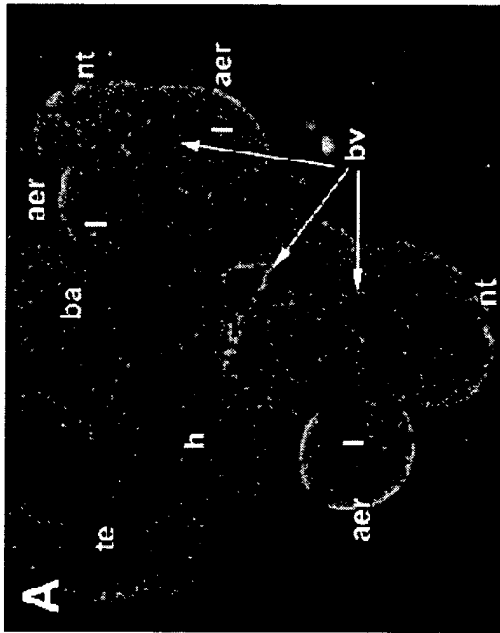


Fig. 3A

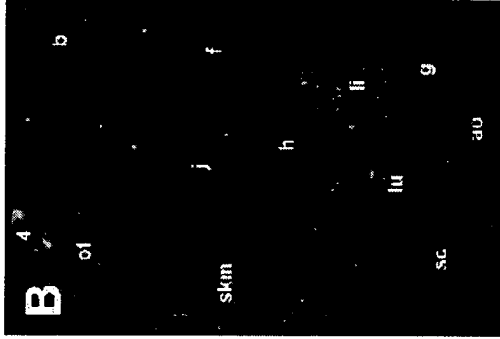


Fig. 3B

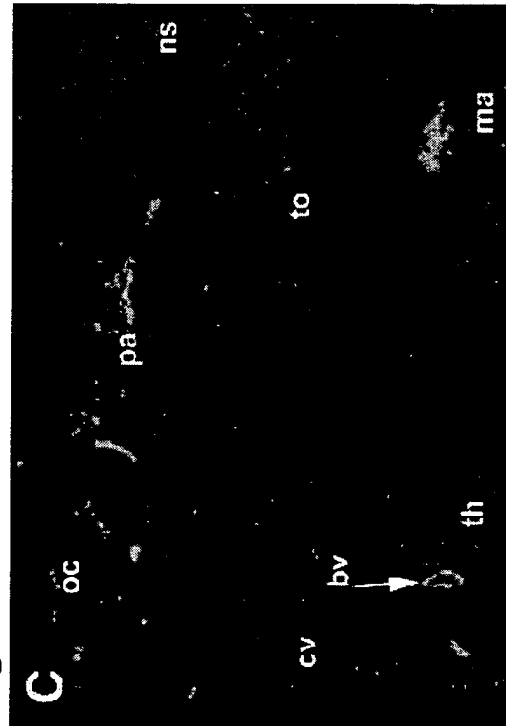


Fig. 3C

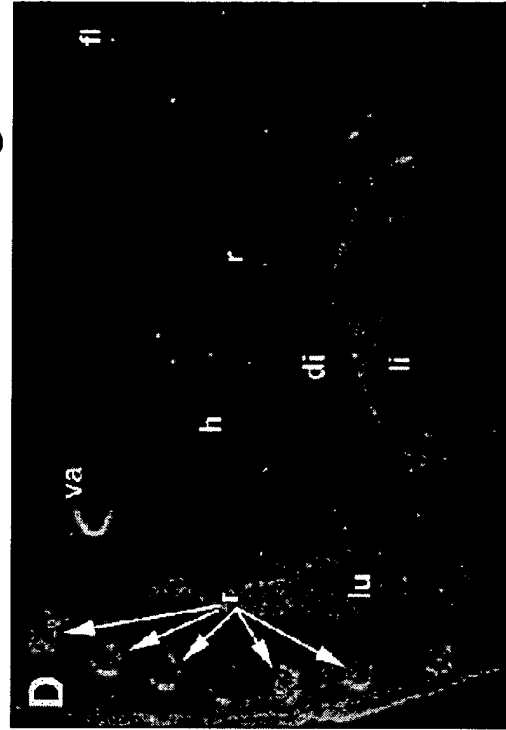


Fig. 3D

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Antibody Selectivity

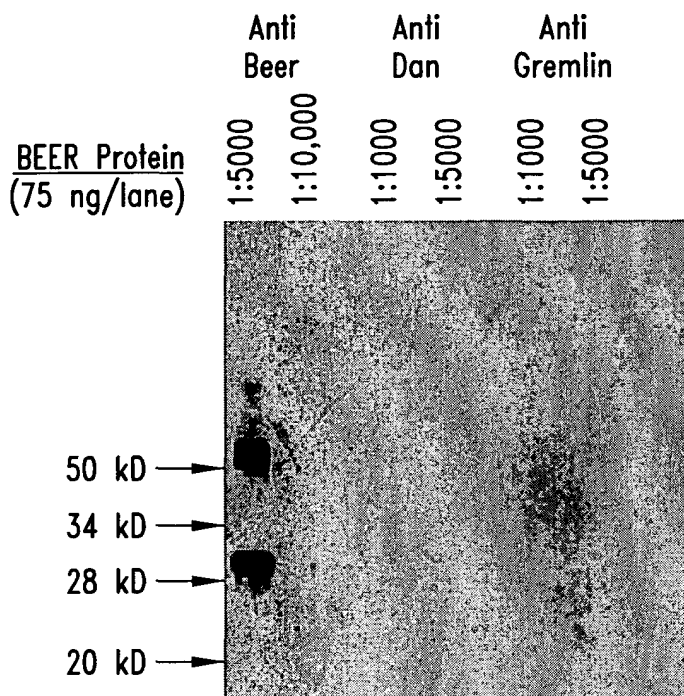


Fig. 4A

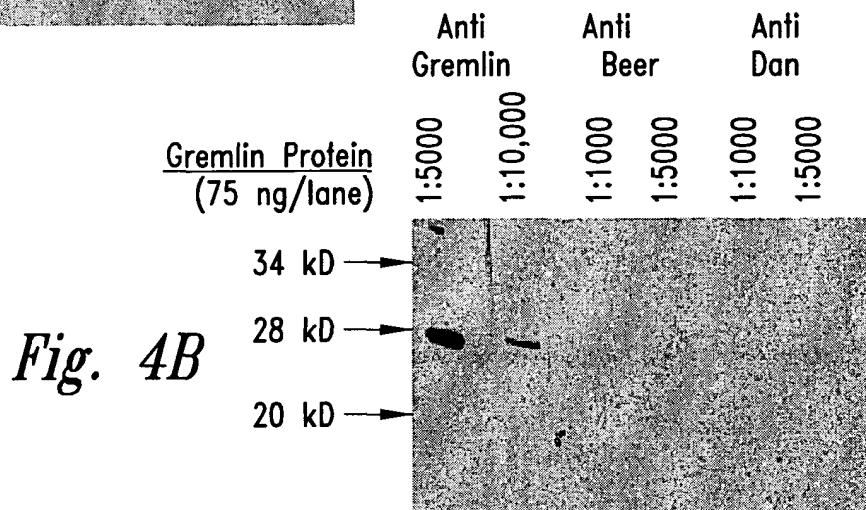


Fig. 4B

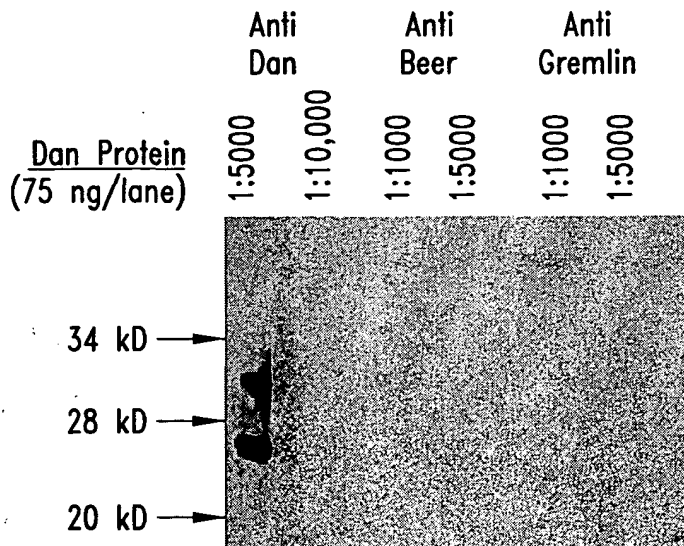


Fig. 4C

Evaluation of Beer binding to BMP family members Anti-FLAG Immunoprecipitation

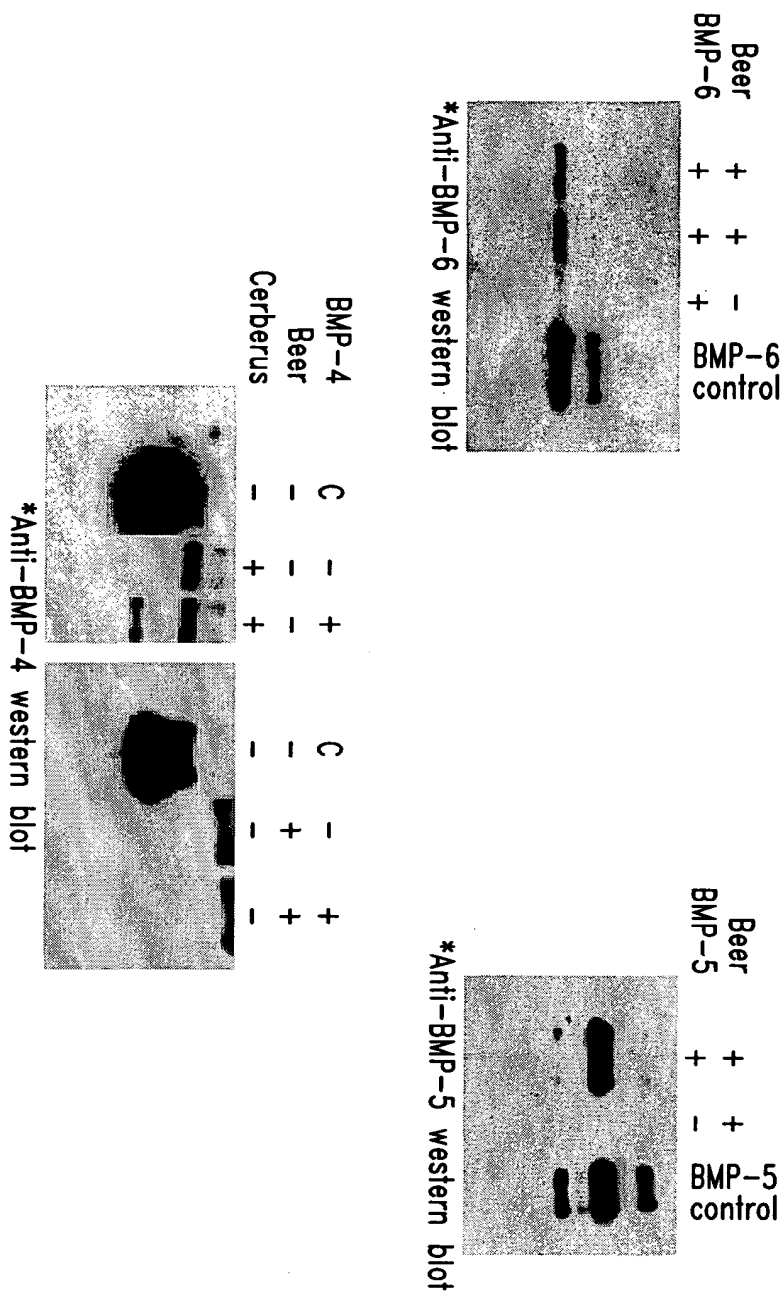


Fig. 5

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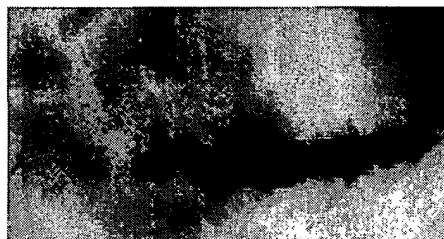
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BMP-5/Beer Dissociation Constant Characterization

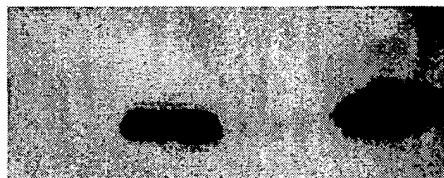
.75 1.5 7.5 15 30 60 120 nM BMP-5



*Anti-FLAG immunoprecipitation
*Anti-BMP-5 western blot

Ionic Disruption of BMP-5/Beer Binding

NaCl(mM)	500	150	150	BMP-5 western control
Beer	+	+	-	
BMP-5	+	+	+	



*Anti-FLAG immunoprecipitation
*Anti-BMP-5 western blot

Fig. 6